AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Currently amended) A method for identifying the sequence of a portion of sample DNA comprising the steps of:

(i) forming immobilised ~~double stranded~~ DNA comprising of one strand of sample DNA and one strand of primer DNA on one or more reaction areas in a microchannel structure of a microfluidic device;

(ii) adding reagents including ~~a~~ deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide and ~~a~~ DNA polymerase and moving said reagents within said microchannel structure to each of said one or more reaction areas so that extension of primer occurs as a result from complementarity of the added deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide with the strand of sample DNA that is part of the immobilised double stranded DNA;

(iii) detecting whether or not the deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide added in step (ii) is added to the primer DNA in said one or more reaction areas;

(iv) removing said reagents ~~pyrophosphate, DNA polymerase or the excess of deoxynucleotide, deoxynucleotide analogue, or dideoxynucleotide~~ from one or more reaction areas;

(v) repeating steps (ii) – (iv) with different deoxynucleotides, deoxynucleotide analogues or dideoxynucleotides; and

(vi) identifying said sequence from the results of the above previous steps.

3. (Canceled)

4. (Currently amended) A method for identifying the sequence of a portion of sample DNA, comprising the steps of:

(i) adding sample DNA to a microfluidic device;

(ii) moving the sample DNA to a reaction chamber on the microfluidic device;

(iii) attaching the sample DNA to a surface of the reaction chamber, wherein a DNA primer is hybridised to the sample DNA in a single stranded form,

(iv) adding reagents including ~~a~~ deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide and ~~a~~ DNA polymerase to said reaction chambers so that extension of primer DNA occurs as a result from complementarity of the added deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide with the strand of sample DNA that is attached to the surface of the reaction chamber;

(v) detecting whether or not the deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide added in step (iv) is added to the primer DNA in said reaction chamber;

(vi) removing said ~~pyrophosphate, DNA polymerase or the excess of deoxynucleotide, deoxynucleotide analogue, or dideoxynucleotide~~reagents from one or more reaction areas;

(vii) repeating steps (iv) – (vi) with different deoxynucleotides, deoxynucleotide analogues or dideoxynucleotides; and

(viii) identifying said sequence from the results of ~~of~~ the above previous steps.

5. (Canceled)

6. (Previously presented) The method of claim 2, wherein the deoxynucleotide, deoxynucleotide analogue, or dideoxynucleotide that is added in step (ii) is labelled.

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Currently amended) The method of claim 2, wherein the microfluidic device is a disc and the fluids are moved by ~~centrifugal~~ centripetal force within the microfluidic device.

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Currently amended) The method of claim 4, wherein the microfluidic device is a disc and the fluids are moved by ~~centrifugal~~ centripetal force within the microfluidic device.

17. (Canceled)

18. (Canceled)

19. (Currently amended) A method for identifying the sequence of a portion of sample DNA, comprising the steps of:

i) attaching at least one primer DNA to each of between one and 100,000 areas to the surface within a reaction chamber of a microfluidic device;

(ii) adding sample DNA to the microfluidic device;

(iii) moving the sample DNA to the reaction chamber on the microfluidic device;

(iv) hybridising the sample DNA in single stranded form to the primer DNA;

(v) adding ~~a~~ reagents including deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide and ~~a~~ DNA polymerase to the reaction chamber so that extension of primer DNA occurs as a result from complementarity of the added deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide with the strand of sample DNA;

(vi) detecting whether or not the deoxynucleotide, deoxynucleotide analogue or dideoxynucleotide added in step (v) is added to the primer DNA in said reaction chamber;

(vii) removing said ~~pyrophosphate, DNA polymerase or the excess of deoxynucleotide, deoxynucleotide analogue, or dideoxynucleotide~~reagents from one or more reaction areas;

(viii) repeating steps (v) – (vii) with different deoxynucleotides, deoxynucleotide analogues or dideoxynucleotides; and

(ix) identifying said sequence from the results of the above previous steps.

20. (Previously presented) The method of claim 2, wherein the detecting step (iii) measures the release of pyrophosphate.

21. (Previously presented) The method of claim 20, wherein the pyrophosphate release is detected by light emitted from a luciferin luciferase reaction.

22. (Previously presented) The method of claim 6, wherein the label is a fluorescent label.

23. (Previously presented) The method of claim 4, wherein the detecting step (v) measures the release of pyrophosphate.

24. (Previously presented) The method of claim 23, wherein the pyrophosphate release is detected by light emitted from a luciferin luciferase reaction.

25. (Previously presented) The method of claim 4, wherein the deoxynucleotide, deoxynucleotide analogue, or dideoxynucleotide that is added in step (iv) is labelled.

26. (Previously presented) The method of claim 25, wherein the label is a fluorescent label.

27. (Previously presented) The method of claim 19, wherein the detecting step (vi) measures the release of pyrophosphate.

28. (Previously presented) The method of claim 27, wherein the pyrophosphate release is detected by light emitted from a luciferin luciferase reaction.

29. (Previously presented) The method of claim 19, wherein the deoxynucleotide, deoxynucleotide analogue, or dideoxynucleotide that is added in step (v) is labelled.

30. (Previously presented) The method of claim ~~28~~29, wherein the label is a fluorescent label.

31. (Previously presented) The method of claim 19, wherein the microfluidic device is a disc and the fluids are moved by centripetal force.

32. (New) The method of claim 2, wherein step (iv) is washing one or more reaction areas.

33. (New) The method of claim 4, wherein step (vi) is washing one or more reaction areas.

34. (New) The method of claim 19, wherein step (vii) is washing one or more reaction areas.

35. (New) The method of claim 2, wherein the amount of DNA sample is in the range of about 1 femtomole to about 200 pmol.

36. (New) The method of claim 35, wherein the amount of DNA sample is in the range of about 0.1 pmol to about 200 pmol.

37. (New) The method of claim 4, wherein the amount of DNA sample is in the range of about 1 femtomole to about 200 pmol.

38. (New) The method of claim 37, wherein the amount of DNA sample is in the range of about 0.1 pmol to about 200 pmol.

39. (New) The method of claim 19, wherein the amount of DNA sample is in the range of about 1 femtomole to about 200 pmol.

40. (New) The method of claim 39, wherein the amount of DNA sample is in the range of about 0.1 pmol to about 200 pmol.